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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,224	02/17/2000	Masashi Shiraishi	980110D/TL	6828

7590

08/16/2002

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 08/16/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/506,224

Applicant(s)

SHIRAISHI ET AL.

Examiner

Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 19-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-18 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/033,789.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the invention of Group III, Claims 13-18 in Paper No. 5 is acknowledged. NOTE: Applicants have amended Claim 24 such that Claims 24-29 are now included with Group III.
2. Claims 1-12 and 19-23 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Priority

3. This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading "This is a Divisional of Application No. 09/033,789, filed 3/3/98, now U.S. Patent 6,084,746." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of all nonprovisional parent applications referenced should be included.

Specification

4. The amendment filed 2/17/00 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: on page 3 of the preliminary amendment with the changes to

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page 20 drawn to the relationship of Lb/La. The amendment changes the ranges of Lb/La, which applicants did have support for in the original parent application 09/033,789.

Applicant is required to cancel the new matter in the reply to this Office Action.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing a Magnetic Head Device.

Claim Objections

6. Claims 14-17 and 24-28 are objected to because of the following informalities: the preamble of dependent Claims 14-17 and 24-28 are inconsistent with the preamble of independent Claim 13. The examiner recommends amending the preamble of each of the dependent claims to read as –The method of...--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 13-18 and 24-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 13, 18 and 29, the recitation of “the mounting position” (line 13 of Claim 13, line 14 of Claim 18, and line 14 of Claim 29) lacks positive antecedent basis.

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Also in Claim 13, there is a great deal of uncertainty and confusion between the preamble, which is drawn to “A method of fabricating a magnetic disc device...”, and certain portions of the body of the claim, such as “rotating the magnetic disc...operation” (lines 11-12), and “where the IC chip is always...in operation” (lines 14-17). The scope of the claims is unclear as to whether the intent is to claim the fabrication of the magnetic disc device or the operation of the disc device. The same problems above occur in each of Claims 18 and 29.

In each of Claims 14-16, it is unclear if the recitation of “a suspension structure” (line 2 of each claim) is referring to the previous recitation of “a suspension structure” (line 3 of Claim 13). How many suspensions structures are there?

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 13, 14, 17 and 18, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by either Hosokawa et al 5,014,145 or Japanese Patent Publication, JP 6-195668, referred to hereinafter as JP’668.

Hosokawa discloses a method of fabricating a magnetic disc device comprising: mounting a head IC chip 8 on a connecting device (flexible circuit 9 in Fig. 3); selecting a mounting position of the IC chip 8 on the connecting device 9 (shown in Fig. 4).

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Regarding Claim 17, Hosokawa shows the IC chip facing the magnetic disc 7 where the IC chip is located inside an outer periphery of the magnetic disc (see Fig. 2).

JP'668 discloses a method of fabricating a magnetic disc device comprising: mounting a head IC chip 28 on a connecting device (circuit 25 in Fig. 1); selecting a mounting position of the IC chip 28 on the connecting device 25 (shown in Fig. 2).

Regarding Claim 17, JP'668 shows the IC chip facing the magnetic disc 7 where the IC chip appears to be located inside an outer periphery of the magnetic disc (shown in Fig. 8).

With respect to the limitations of "rotating the magnetic disc...operation" (lines 11-12 of Claim 13 and lines 12-13 of Claim 18), and "where the IC chip is always...in operation" (lines 14-17 of Claim 13 and lines 15-18 of Claim 18), these limitations have not been any patentable weight since they only affect the operation of the magnetic disc device in a future tense and not the fabrication of the magnetic disc device in the present tense.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 13, 14, 16-18, 24, 25, 27, 28 and 29, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hosokawa et al or JP'668, in view of Frater et al 4,443,824.

Regarding Claims 13, 14, 17 and 18, if applicants believe that the operation of the magnetic disc device is somehow related to the fabrication of the magnetic disc device, then Frater teaches that rotating the magnetic disc during operation with the IC chip mounted and that the IC chip is exposed to a flow of air produced by the rotations of the magnetic disc (see col. 1, lines 10-14). Frater seeks to improve this cooling affect by reducing the mass of material of the suspension structure for better cooling and better production output (see col. 2, line 56 to col. 3, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of either Hosokawa or JP'668 by reducing the mass of the suspension structure, as taught by Frater, to improve the cooling and production output of the magnetic disc device during operation.

Regarding Claims 16, 24, 27 and 29, the values claimed for the mass of the IC chip and the distance between the IC chip and the magnetic disc, are considered to be effective variables within the fabrication or operation of the magnetic disc device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the specific claimed values for mass and distance, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

13. Claims 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hosokawa et al or JP'668 in view of Frater et al, as applied to claims 13 and 24 above, and further in view of Olyphant et al 3,832,769.

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The prior art of either Hosokawa et al or JP'668, as modified by Frater et al, teaches the claimed manufacturing method as previously discussed. However, the prior art above does not teach flip-chip bonding.

Olyphant teaches flip chip bonding to solve of the problems of short circuiting and control of solder (see col. 1, lines 17-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the prior art by flip chip bonding the IC chip to the connecting device, as taught by Olyphant, to positively prevent short circuiting and provide better solder control.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

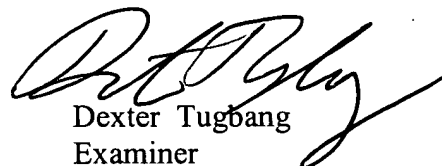
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

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Dexter Tugbang
Examiner
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August 12, 2002